

Appln No. 09/825,599

Amdt date August 12, 2005

Reply to Office action of June 23, 2005

REMARKS/ARGUMENTS

Claims 1, 3, 4, 5, 7, and 8 are now pending. Claims 1, 4, 5, and 8 are amended.

The Examiner rejected claims 1, 3, 5, and 7 under 35 U.S.C. 102(b) as being anticipated by Wittman (U.S. 4,595,802) and rejected claims 4 and 8 under 35 U.S.C. 103(a) as being also unpatentable over Wittman.

Independent claims 1 and 5 are amended to call for: "wherein a turns ratio between the transmit coil and the coil across the twisted pair is designated wt:1, wherein a turns ratio between the receive coil and the coil across the twisted pair is designated wr:1, and wherein $wr > wt$." Support for this amendment is found on lines 5 - 6 of page 18 of the specification. In rejecting claims 4 and 8, whose limitations are now included in claims 1 and 5, the Examiner found it obvious to one skilled in the art to modify Wittman to include wt:1 and wr:1 ratios as long as it did not produce any unexpected results. The Examiner did not mention the range recited in these claims.

The Applicants respectfully submit that the limitations recited by these claims is contrary to common practice in the art and does indeed produce desirable results that was not foreseen in the art.

One argument for nonobviousness of the added limitation is presented on page 18 of the specification stating: "Prior art voiceband or ADSL modems do not take advantage of this technique [referring to the technique of having a $wr > wt$]. In the case of ADSL, the situation is particularly egregious in that it is

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common to step up transformers from modem to line side in order to boost the transmitted signals up to levels required for long distance communication. This means there is actually attenuation of received signal." (Underlining for emphasis).

To verify the argument presented in the specification, the Applicants conducted a brief review the references provided by the Examiner in a previous Notice of References Cited that included Wittman, Reutter (U.S. 4,178,569), Lechner (U.S. 4,378,472), Jakab (U.S. 5,274,704), Rezvani (U.S. 6, 760,434), and Williamson (U.S. 5,991,269).

As a result of this review, the Applicants believe that these references either do not discuss a turns ratio at all or do not disclose that "a turns ratio between the transmit coil and the coil across the twisted pair is designated wt:1, wherein a turns ratio between the receive coil and the coil across the twisted pair is designated wr:1, and wherein $wr > wt$ " of claims 1 and 5. These references do not disclose "wherein a wr:wt ratio falls within a range from greater than 1 to 4" of claims 4 and 8. The Applicants believe, that these references may even teach away from the claimed invention.

Lechner, discloses a $w4:w3=1.2$, where $w4$ is the number of turns in a fourth partial winding lying in the transmitting branch of the four-wire transmitting line and $w3$ is the number of turns in a third partial winding in the receiving branch, and where $w4$ is greater than $w3$. (Lechner, Col. 5, lines 15 - 23). Jakab, also teaches away from the claims and preaches the step up that the specification of this Application accuses prior art of doing. (Jakab, Col. 4, lines 36 - 45). Rezvani, includes a

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number of tables with various turns ratios. (Rezvani, Col. 6, lines 55 - 65, Col. 7, lines 5 - 20, Col. 9, lines 4 - 31). The Applicants did not locate the combinations claimed by amended claims 1 and 5 or claims 4 and 8 in any of the various combinations of the turns ratios presented in these tables.

Accordingly, the Applicants believe that the cited references confirm the assertion of the specification and that the claimed invention is nonobvious.

Claim 3 depends from amended claim 1 and claim 7 depends from amended Claim 5. These claims are believed allowable based on claims 1 and 5 respectively.

Accordingly, in view of the above amendment and remarks it is submitted that the claims are patentably distinct over the cited references and that all the rejections to the claims have been overcome. Entry of the amendments, reconsideration of the Application, and allowance of pending claims 1, 3, 4, 5, 7, and 8 are respectfully requested.

Respectfully submitted,
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